

**CLAIMS:**

1. A method for decoding a tag with an *n*-bit binary code the method comprising:
  - (a) associating with the tag one or more predetermined frequency sources that produce known different respective characteristic frequencies; and
  - (b) associating with each of said characteristic frequencies a known unique position in the *n*-bit binary code.
2. The method of Claim 1, wherein at least some of the frequency sources are passive frequency sources.
3. The method of Claim 2, wherein the passive frequency sources are resonant elements.
4. The method of Claim 1, wherein at least some of the frequency sources are active frequency sources.
5. The method of Claim 1, wherein the characteristic frequencies are resonant frequencies.
6. The method of Claim 1, wherein the characteristic frequencies constitute acoustic signals.
7. The method of Claim 1, wherein associating with the tag includes printing the one or more predetermined frequency sources on or in association with the tag.
8. A method for alerting suspected theft from a premises of a tag having associating therewith one or more predetermined frequency sources that produce known different respective characteristic frequencies and each of which is associated with a known unique position in an *n*-bit binary code that is characteristic of the tag, the method comprising:
  - (a) detecting *n*-bit binary codes emitted by tags leaving the premises;
  - (b) determining whether one or more of the *n*-bit binary codes corresponds to a tag that is removed from said premises without authorization; and

(c) if so, providing an alert.

9. A method for stock management of tags having associating therewith one or more predetermined frequency sources that produce known different respective characteristic frequencies and each of which is associated with a known unique position in an  $n$ -bit binary code that is characteristic of the respective tag, said method comprising:

- (a) recording the respective  $n$ -bit binary code of each tag in a stock list; and
- (b) when removing an item from stock, detecting the respective  $n$ -bit binary code of said tag and updating the stock list accordingly.

10. A method for improving safety in an operating theater by keeping track of surgical instruments having associating therewith one or more predetermined frequency sources that produce known different respective characteristic frequencies and each of which is associated with a known unique position in an  $n$ -bit binary code that is characteristic of the respective surgical instrument, said method comprising:

- (a) on moving a surgical instrument to within a working area of the operating theater detecting the respective  $n$ -bit binary code of the surgical instrument;
- (b) maintaining a running list of all surgical instruments that are in said working area; and
- (c) upon termination of a surgical procedure ensuring that all surgical instruments are accounted for.

11. A method for authorizing an electrical appliance having at least one authorization code for use by an operative bearing an authorization tag having associated therewith one or more predetermined frequency sources that produce known different respective characteristic frequencies and each of which is associated with a known unique position in an  $n$ -bit binary code that is characteristic of the respective electrical appliance, said method comprising:

- (a) detecting  $n$ -bit binary codes emitted by the authorization tag;

- (b) determining whether at least one of the  $n$ -bit binary codes matches an  $n$ -bit binary code that is characteristic of the electrical appliance; and
- (c) if so, allowing operation of said electrical appliance.

12. A method for decoding an  $n$ -bit binary code encoded by a tag having associated therewith one or more predetermined frequency sources each adapted to emit a respective characteristic frequency associated with a known unique position in the  $n$ -bit binary code, the method comprising:

- (a) detecting characteristic frequencies emitted by the tag; and
- (b) substituting at respective positions of said  $n$ -bit binary string respective binary values according to a presence or absence of the respective characteristic frequency associated with the respective position in the  $n$ -bit binary code.

13. The method of Claim 12, wherein at least some of the characteristic frequencies are resonant frequencies.

14. The method of Claim 12, wherein at least some of the characteristic frequencies constitute acoustic signals.

15. The method of Claim 12, including detecting at least some of the characteristic frequencies in parallel.

16. The method of Claim 12, including detecting at least some of the characteristic frequencies sequentially.

17. A tag encoded with one or more predetermined frequency sources that produce known different respective characteristic frequencies and that are associated with a known unique position in the  $n$ -bit binary code.

18. An encoder for encoding a tag with an  $n$ -bit binary code, said encoder comprising:

a frequency source unit that is responsive to the  $n$ -bit binary code for depositing in association with the tag one or more predetermined frequency sources

that produce known different respective characteristic frequencies and that are associated with a known unique position in the *n*-bit binary code.

19. A decoder for decoding a tag having an *n*-bit binary code, said decoder comprising:

5 a detector for detecting one or more different characteristic frequencies each of which is associated with a known unique position in the *n*-bit binary code; and

a decoding unit coupled to the detector for substituting at respective positions of said *n*-bit binary string respective binary values according to a presence  
10 or absence of the respective characteristic frequency associated with the respective position in the *n*-bit binary code.